

# Who Gets What When Supply Chains Are Disrupted?

When companies cannot meet the full demands of their customers, leaders need to set clear decision criteria and the mechanisms to back them up.

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The COVID-19 pandemic has upended normal life and many supply chains. Between hoarding (such as toilet paper), unexpected demand surges (such as yeast, for baking), and spot supply shortages (because of factories or warehouses closed due to infection or mandate), some products are in short supply. The most tragic examples, of course, involve shortages of ventilators, personal protective equipment, and pharmaceutical supplies required to care for people infected with the coronavirus.

When disaster strikes, suppliers, original equipment manufacturers, and retailers may find that they cannot offer all their products or fulfill all their customer orders. They must decide who gets what. But how?

Past disruptions reveal the ways companies on both ends of the supply chain have handled such challenges, both in terms of the tactics they employed and the

considerations they used for their decisions. These examples illustrate the diverse approaches executives can use to determine who gets what.

### **Six Tactics for Managing Supply Shortfalls**

The main tactics executives have chosen for prioritizing products and customers when they are unable to fulfill all orders involve some type of allocation. Regardless of the specific approach employed, there are always competing priorities that have to be taken into account, leading to the need for careful consideration.

**Favor the most important customers.** During several disruptions to microelectronics supplies over the past 25 years, the largest PC makers, including HP, Dell, and Apple, were high on suppliers' priority lists. Differentiated allocation policies favor some customers while impeding others.

A related allocation criterion is to direct supplies to the highest-margin products and customers. For example, General Motors scrambled to find scarce materials in 2011 after a trifecta of disasters — an earthquake, a tsunami, and a nuclear meltdown — hit Japan and devastated factories there. In GM's crisis room, "Project J" had supply chain professionals scouring the globe to find sufficient parts to keep all of the company's car factories running. Despite the frantic search, at one point GM could not find enough airflow sensors for its trucks. The team decided to prioritize full-sized trucks over small trucks because the larger vehicles were both more profitable and had smaller retail inventories.

**Maximize short-term revenues.** Economists often argue that a well-designed auction improves economic efficiency by allocating scarce resources to those who can create the greatest value with that resource. (This is the usual justification for government auctions of electromagnetic spectrum.) Moreover, high prices after a disruption encourage more-flexible buyers to forgo the scarce commodity, thereby conserving supplies for those who have no other options.

The danger in auctions is that customers may perceive them as price gouging. In the wake of the flooding that inundated the plains in Thailand and devastated an industrial cluster of electromechanical parts suppliers and hard-disk makers in 2011, Seagate Technology became the No. 1 disk-drive maker, taking the crown from its more disrupted rival, Western Digital. Because Seagate could not replace all the lost supply, it decided to auction some disk drives to the highest bidder. Seagate also used the threat of these auctions to compel customers to sign long-term agreements. However, customers perceive auctions during a disruption —

despite their theoretical appeal — as profiteering. Indeed, after the flood receded and Western Digital recovered, it took back the lead. Unfortunately, the COVID-19 pandemic has given rise to cases of naked profiteering by suppliers of needed medical supplies.

**Treat everyone equally.** Some companies insist on “fair” or uniform allocations of volume for commercial, cultural, or legal reasons. With a uniform allocation policy, all products or customers get identical treatment, such as the same fraction of ordered volume or the same change in prices. After the 2011 Fukushima nuclear disaster, many Japanese companies gave every customer the same fraction of their orders. Likewise, Intel, as a large supplier in the PC industry, generally uses a similarly uniform allocation approach to avoid the appearance of favoritism.

But being fair isn’t easy when customers try to game the system by artificially inflating their orders. To combat this, some companies allocate product based on a portion of pre-disruption historical order volumes. With COVID-19, many retailers have implemented fixed-volume allocations, such as limiting all shoppers to two cartons of eggs.

**Shape demand.** In several instances of PC parts shortages, Dell raised the price of computer configurations that required scarce parts. The company, though, balanced those price hikes with lower prices on other machines that used more plentiful parts — and promoted these more readily available machines. This balance of pricing changes can help manage a shortage without damaging customer relations.

Such *demand management* is akin to the revenue management practices used by airlines to fill their seats — allowing price-sensitive leisure travelers to buy some tickets while reserving other seats for customers who will more readily pay higher prices.

**Alter products.** Rather than raising prices or cutting off customers, some companies turn to reformulating their products. Intel, for example, diluted some of the chemicals used in chip making during the 2011 crisis in Japan, but the company followed a strict quality control protocol that enabled it to maintain its manufacturing yield and chip performance.

Alterations that result in quality downgrades, however, are risky. In February 2013, the boutique distillery Maker’s Mark faced a shortage of its premium bourbon. The distiller decided to add “a touch more water,” diluting its spirits

from the historic 90 proof to 84 proof. Outrage ensued. “My favorite bourbon is being watered down so they can ‘meet market demand,’” one superfan, called a *brand ambassador*, told *Forbes*. “I’ll help lower their demand by not buying any more.” The company quickly reversed its decision.

**Take care of the vulnerable.** Customer vulnerability may sometimes be a consideration, especially if the quantities required to keep a customer from going under are not large. Verifone, a maker of credit card processing equipment, wasn’t a large customer for the electric motors made scarce by the same 2011 floods in Thailand mentioned above, but the company’s absolute dependence on these motors led suppliers to fulfill its (small) orders.

Similarly, during COVID-19, some retailers are catering in special ways specifically to vulnerable customers, such as by giving the elderly their own early morning shopping hours to get to freshly restocked shelves first.

## Weigh the Scope and Time Horizon

As companies consider their options for dealing with supply shortages, they need to consider both the scope of the analysis and its time horizon. How will their choices play out for both themselves and their customers in the short and long terms? (See “What Drives Resource Allocation During a Supply Shortfall?”)

The scope of the analysis can be driven by the impacts on the company itself (profits, market share, reputation) or the impacts on customers (survival, ethics, long-term value, growth opportunities). The time horizon can focus on maximizing near-term



outcomes (survival, quick financial returns) or include long-term effects (strategic goals or focus).

So how does a supplier pick the scope and the time horizon to consider first? Clearly, executives in companies fighting for survival have a fiduciary duty to maximize their companies' short-term financial outcomes and bias the decisions accordingly. In contrast, executives enjoying a strong balance sheet and good credit have the luxury of more options, including making long-term decisions with an expanded scope of how the decisions could align with customers to promote growth. The comfort of working from a position of strength enables stronger companies to pursue their values and strategic imperatives.

There can be an upside to a supply interruption: Many companies decide not to "let the crisis go to waste" and use the disruption to implement reorganizations that would have been difficult to carry out in regular times. By the same token, some companies use the crisis to cull products, channels, or customers that are underperforming or that no longer align with the strategic direction of the organization. Of course, any customer divestiture should be handled with care, because other customers may defect, fearing they are going to be next.

Regardless of the weakness or strength of a company going into a disruption, properly managing who gets what can help it suffer the least damage from supply interruptions. In the end, well-deliberated decisions about tactics, scope, and time horizon can help a company come out ahead.

### **ABOUT THE AUTHOR**

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